Before the
Federal Communications Commission
Washington, DC 20554

Application by Verizon New Jersey	)	
Inc., Bell Atlantic Communications,	)	
Inc. (d/b/a Verizon Long Distance),	)	CC Docket No. 01-347
NYNEX Long Distance Company	)	
(d/b/a Verizon Enterprise Solutions),	)	
Verizon Global Networks Inc., and	)	
Verizon Select Services Inc., for	)	
Authorization to Provide In-Region,	)	
InterLATA Services in New Jersey	)	

COMMENTS OF
Z-TEL COMMUNICATIONS, INC.

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Dated: January 14, 2002

SUMMARY

Verizon's Application is inconsistent with the public interest because of the significant and severe "price squeeze" that exists in New Jersey residential markets. Indeed, the significance and magnitude of the price squeeze is readily apparent from Verizon's Application, which admits that the price squeeze has effectively halted residential competition in the state. Given the recent mandate of the D.C. Circuit in *Sprint v. FCC*, 2001 WL 1657297 (D.C. Cir.), as part of its public interest analysis, the Commission must consider the impact this price squeeze has on competition in the residential market. This price squeeze must be rectified prior to granting 271 entry -- in the end, regardless of Verizon's intentions or actual wholesale performance, if the wholesale/retail conditions in the state "doom" competition to failure, Verizon 271 entry is not in the public interest.

Evidence provided by Verizon demonstrates that this price squeeze has substantially foreclosed the development of residential competition in New Jersey. Indeed, Verizon states that competitors served 57,000 residential lines in New Jersey at the time of Verizon's Application.[1] Of these, only 800 residential lines were served over the UNE-P, and approximately 56,000 residential lines were served by resale.[2] By contrast, Z-Tel has well over 100,000 residential customers in New York and over 50,000 residential customers in Pennsylvania. The existing price squeeze in New Jersey, however, makes entry into New Jersey uneconomic – a fact that Verizon readily admits in its application.[3]

Until such time as the unquestioned price squeeze between Verizon's residential and wholesale rates is eliminated, the Commission should reject Verizon's New Jersey

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[1]   Verizon Brief, 79.

[2]   *Id.*

[3]   *See* Taylor Declaration, ¶¶ 31-34.

application as inconsistent with the public interest. At a minimum, the Commission should not

approve Verizon's Application unless it voluntarily lowers its wholesale rates to lowest point

within the TELRIC "zone of reasonableness" to mitigate the impact of the price squeeze.

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COMMENTS OF
Z-TEL COMMUNICATIONS, INC.

Z-Tel Communications, Inc. ("Z-Tel"), by its attorneys, hereby submits its

comments in response to the Federal Communication Commission's ("FCC's" or

"Commission's") Public Notice (DA 01-2994) in the above-captioned proceeding. The Public

Notice invites interested parties to respond to the Application of Verizon New Jersey Inc., *et al.*

(collectively "Verizon") to provide in-region, interLATA services in the State of New Jersey,

pursuant to section 271 of the Communications Act of 1934, as amended ("Act").

I.   INTRODUCTION

Z-Tel is a Tampa, Florida-based competitive local exchange carrier ("CLEC")

that offers bundled packages of local, long distance, and enhanced services to residential

customers using the combination of unbundled network elements ("UNEs") known as the UNE

Platform, or "UNE-P." As of October 31, 2001, Z-Tel was providing integrated local, long

distance, and enhanced services to more than 260,000 residential consumers in 35 states –

including all the states that border New Jersey, including New York, Delaware, and

Pennsylvania.

Z-Tel fully expects to provide service to as many consumers as possible in every state in which Z-Tel has a meaningful opportunity to compete. The price squeeze in New Jersey significantly and substantially limits the competitive opportunities available to residential CLECs like Z-Tel in the State. In New Jersey, the rates Verizon charges for residential service are substantially and materially lower than the rates Verizon presently charges CLECs for the network elements that comprise the UNE-P. When Z-Tel's non-Verizon costs of providing local services – e.g., software development, customer care, billing and collections, etc. – are added to the UNE rates, it becomes clear that CLECs cannot reasonably provide residential service in New Jersey without losing substantial sums of money on every sale.

Z-Tel has every intention of being an aggressive competitor in all possible residential and small business markets throughout the country. Z-Tel's services are currently available in 35 states nationwide, a roll-out that covers over 80% of all access lines served by Bell Operating Companies ("BOCs"). Because "Verizon provides CLECs operating in New Jersey with ... common interfaces to its OSS as those serving Verizon's other 271-approved States"[4] (i.e., Connecticut, Massachusetts, New York, and Pennsylvania), and because Z-Tel is very familiar with Verizon's OSS by virtue of its residential service roll-out in other Verizon states (including neighboring Delaware, New York and Pennsylvania), Z-Tel's incremental overhead cost of entering the New Jersey residential market would be nominal. In spite of what should be clear advantages of market entry, however, Z-Tel has not entered the New Jersey local telecommunications market in part due to the existing price squeeze between Verizon's wholesale and retail rates.[5]

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[4]   Verizon Brief, 57.

[5]   According to Verizon, "residential rates in New Jersey are the *lowest* in the entire country – only $8.19 per month for flat-rate local service." Verizon Brief, 4.

Until such time as the unquestioned price squeeze between Verizon's residential

and wholesale rates is eliminated, the Commission should reject Verizon's New Jersey

application as inconsistent with the public interest.[6] At a minimum, the Commission should not

approve Verizon's Application unless it voluntarily lowers its wholesale rates to lowest point

within the TELRIC "zone of reasonableness" to mitigate the impact of the price squeeze.

II. THE COMMISSION SHOULD REJECT VERIZON'S APPLICATION AS CONTRARY PUBLIC INTEREST

In addition to making affirmative findings of compliance with the competitive

checklist, the Commission may not approve a section 271 application unless the Commission

determines that "the requested authorization is consistent with the public interest, convenience,

and necessity."[7] The Commission has explained that it "may review the local and long distance

markets to ensure that there are not unusual circumstances that would make entry contrary to the

public interest."[8] The price squeeze on competitors that exists as a result of the extremely low

residential rates in New Jersey is an "unusual circumstance" that the FCC must consider in its

public interest analysis. Indeed, because the existing price squeeze effectively precludes

competitors from a reasonable opportunity to compete in the residential market in New Jersey,

the Commission should reject Verizon's application as contrary to the public interest.

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[6] Because Z-Tel does not offer competitive local service in New Jersey, it is not in a position to comment on whether Verizon has fully implemented the 14-point checklist in the State. Z-Tel's silence on Verizon's purported checklist compliance should not be interpreted as Z-Tel's agreement that Verizon has complied with the checklist. Indeed, given the common OSS systems in Verizon territory, Z-Tel strongly suspects that the same OSS problems that it experiences in many Verizon states, such as billing OSS in Pennsylvania and other Bell Atlantic South states, are present in New Jersey.

[7] 47 U.S.C. § 271(d)(3)(C).

[8] *Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act to Provide In-Region, InterLATA Service in the State of New York,*

The D.C. Circuit recently mandated that the Commission consider in its section

271 public interest analysis the impact of a price squeezes of the type existing in New Jersey.[9] In

Sprint v. FCC, the D.C. Circuit remanded to the FCC for further consideration "of why it thought

that evidence of a 'price squeeze' [in Kansas and Oklahoma] precluding profitable CLEC

competition [is] irrelevant to its public interest analysis."[10] The "price squeeze" faced by

competitors in residential markets is much more extreme in New Jersey than it is in Kansas and

Oklahoma, which prompted the D.C. Circuit's remand in *Sprint v. FCC*. Indeed, the price

squeeze is so extreme in New Jersey that the Commission - based on data provided by Verizon -

should reject Verizon's Application as contrary to the public interest.

In fact, Verizon readily admits that a significant and substantial price squeeze

exists in New Jersey. Because of the extremely low amount of residential local competition in

the state, Verizon devotes considerable effort attempting to "explain away" that fact by

discussing this price squeeze, and the Application itself demonstrates that the existing price

squeeze in New Jersey is so acute that it forecloses residential competition through all three

modes of entry: facilities, UNEs, and resale. In New Jersey, basic residential rates have been

capped between $4.40 and $8.19 since 1985. According to Verizon, "[t]he rate is so low that it is

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CC Docket No. 99-295, Memorandum Opinion and Order, FCC 99-404, ¶ 423 (rel. Dec. 22, 1999) ("New York 271 Order").

[9] *Sprint Communications Company, L.P. v. FCC*, 2001 WL 1657297 (D.C. Cir.) *5 (finding that "[h]ere, as the Act aims directly at stimulating competition, the public interest criterion may weigh more heavily towards addressing potential "price squeeze.") Thus, Verizon's legal position that the Commission's section 271 public interest authority is limited only to the long distance market is absolutely incorrect. *See* Verizon Brief, n.70.

[10] *Id.,* *13.

the *lowest* basic retail rate in the entire country."[11] Verizon affirmatively states that "the level of

residential rates has deterred residential competition in New Jersey."[12]

Verizon's residential price squeeze has foreclosed completely facilities-based

residential telephone entry. Verizon concedes that "none of the cable operators in New Jersey is

offering cable telephony in the State."[13] Moreover, Verizon admits that "New Jersey is, in fact,

the only state among the top five states in per capita income in which cable telephony is not

available, and only one of three states (along with Delaware and Nevada) among the 12

wealthiest states without such service in any part of the state."[14] Verizon fully understands the

reason behind the lack of facilities-based residential competition in New Jersey: "Verizon's

retail rates ... are relevant to a cable operator."[15] "Where residential retail rates have been set

very low (as in New Jersey), the cable operator also will have to establish very low rates, which

reduces the incentive for the cable operator to make the investment to provide cable telephony in

the first place."[16] Without question, the New Jersey price squeeze has wholly precluded

facilities-based residential competition in the State.

Residential competition has fared nearly as poorly over the UNE and resale entry

strategies due to the price squeeze. Verizon's own data shows that competitors serve a paltry

57,000 residential lines in New Jersey.[17] Only 800 of these lines are served over the UNE-P, and

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[11]   *Id.*, citing Taylor Declaration, ¶ 22 & Attachment 2 (emphasis original).

[12]   *Id.*, 84, citing Taylor Declaration, ¶¶ 31-34.

[13]   Verizon Brief, 87.

[14]   *Id.* (emphasis original).

[15]   *Id.*, 88 (citation omitted).

[16]   *Id.* (citation omitted).

[17]   Verizon Brief, 79.

approximately 56,000 of these lines are served by resale.[18] The price squeeze is without question

foreclosing market entry over the UNE and resale entry strategies.

Because it cannot deny that a price squeeze is present, Verizon argues in its

Application that its Application should not be denied on account of the price squeeze because

that price squeeze is beyond its control. That argument is irrelevant – because it would require

the Commission to ignore the actual conditions for entry in New Jersey. In fact, the D.C. Circuit

expressly rejected this position.[19] Moreover, basic economics demonstrates the clear folly of

taking this position. When Verizon eventually enters the New Jersey interLATA long distance

market, it will have the immediate benefits of operating in a highly competitive wholesale

market (as well as retail market). Numerous facilities-based long distance providers (*e.g.*,

AT&T, Global Crossing, Qwest, Williams, WorldCom, *etc.*) offer wholesale network access at

extremely competitive rates -- so competitive, in fact, that Verizon has elected to purchase

wholesale long distance services from existing carriers, rather than deploy its own long distance

facilities in states in which it has received section 271 authority. CLECs entering local markets

in New Jersey face a market with a single, unfriendly wholesaler -- Verizon -- who's retail rates

are substantially *lower* than wholesale rates. This disconnect clearly frustrates Act's fundamental

purpose -- "stimulating competition."[20] Violating this fundamental purpose of the Act is without

question contrary to the public interest.

It is important to note that the Commission's 271 public interest inquiry is

separate and apart from its checklist compliance inquiry. In short, as the D.C. Circuit noted, the

public interest is not served if Verizon is granted 271 entry when competitive conditions in the

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18   *Id.*

19   *Sprint v. FCC*, 2001 WL 1657297 (D.C. Cir.) *5.

state "doom" entry to failure. It is not relevant to this inquiry if Verizon has the best of

intentions and the best OSS in the country available in New Jersey. If entrants cannot profitably

enter the local market in a state because of a price squeeze, BOC long-distance entry is contrary

to the public interest because the BOC will be able to utilize its market position in the local

market to adversely impact competition in the long-distance market. The Commission's public

interest decision must turn on the *competitive reality* in a state – and not "whose fault" it is for

that reality. In the end, frustrating the Act's fundamental purpose in no way can possibly be

viewed as furthering the public interest. Thus, until such time as the residential price squeeze in

New Jersey is addressed, the Commission must reject Verizon's application.

III. **IN THE ALTERNATIVE, THE COMMISSION SHOULD NOT APPROVE VERIZON'S APPLICATION UNLESS IT LOWERS ITS UNE RATES TO LOWEST POINT IN THE TELRIC ZONE OF REASOBLENESS**

Should the Commission (incorrectly) refuse to reject Verizon's Application on the

basis that granting the Application would undermine the fundamental purpose of section 271, the

Commission at a minimum refuse to approve the Application until Verizon reduces its UNE rates

to the lowest level within the TELRIC "zone of reasonableness."[21] By taking this action, the

FCC would minimize – but not necessarily eliminate – the adverse impact the price squeeze

would have on local entry. It is important to note that such action would not necessarily solve

the price squeeze problem, and, to be consistent with the D.C. Circuit's ruling, the Commission

would still need to justify that the public interest is served by granting the Application even in

the face of this price squeeze.

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[20]   *Id.*

[21]   *Id.,* *4-5.

In *Sprint v. FCC*, the D.C. Circuit noted that one way to remedy a price squeeze is to set wholesale rates "at a lower level within 'the zone of reasonableness.'"[22] It is well understood that the "zone of reasonableness" for a TELRIC UNE rate can be determined by benchmarking a BOC's UNE rates in one state to those in another state in which 271 authority has been granted to evaluate whether a BOC's UNE rates are consistent with TELRIC. As the Commission has noted:

> Our USF cost model provides a reasonable basis for comparing cost differences between states. We have previously noted that while the USF cost model should not be relied upon to set rates for UNEs, *it accurately reflects the relative cost differences among states.*[23]

When evaluating UNE rates within the context of a 271 application, the Commission employs its USF cost model to compare UNE rates in the applicant state with rates in other states for which the Commission has found rates to be TELRIC compliant. If the difference in rates is roughly equal to the differences in costs, then the FCC declares the rates to be TELRIC compliant (or consistent with what a TELRIC analysis would produce). Consistent with this process and with the D.C. Circuit's decision in *Sprint v. FCC*, the Commission should set Verizon's UNE rates in New Jersey at the lower end of the TELRIC range suggested by the FCC's USF model to mitigate the existing residential price squeeze.

In identifying the lower end of the TELRIC range of reasonableness, Z-Tel submits that the Commission should benchmark Verizon's New Jersey rates to the FCC's HCPM

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[22] *Id.*

[23] *Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance for Provision of In-Region, InterLATA Services in Kansas and Oklahoma,* CC Docket No. 00-217, Memorandum Opinion and Order, FCC 01-29, ¶ 84 (rel. Jan. 22, 2001) (emphasis added).

based on all of the UNE rates approved across the nation.[24] Such an analysis demonstrates that

the lower bound of the TELRIC zone of reasonableness for unbundled loops in New Jersey is

$6.53 (on a state-wide average basis) and for unbundled switching is $2.29.[25] A rate reduction

by Verizon to these levels would mitigate (but not necessarily eliminate) the effect of the

residential price squeeze in accordance with the Commission's TELRIC principles.[26]

IV.   CONCLUSION

Consistent with the foregoing, the Commission should reject Verizon Application

as contrary to the public interest because a significant and substantial price squeeze between

wholesale UNE and retail rates exists in the state. Verizon's Application readily admits that the

retail rate structure in the state has halted facilities-based residential competition. Given these

admissions by Verizion, Z-Tel cannot see how granting Verizion interLATA authority would be

in the public interest – because Verizon would be able to use its monopoly power over residential

local customers to adversely impact competition for interLATA services. This was precisely the

type of situation Congress sought to avoid when it passed Section 271.
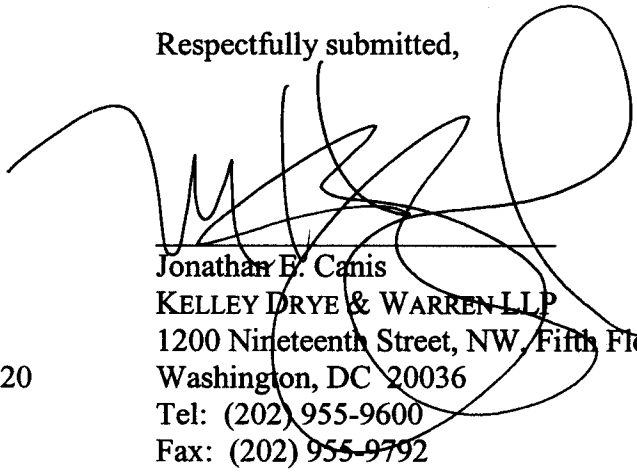
In the alternative, the Commission should -- at an absolute minimum -- refuse to

grant Verizon's Application until such time as Verizon reduces its UNE rates to the lower end of

the TELRIC zone of reasonableness, as outlined in the attached Ford Declaration. Taking that

latter action, however, in no way relieves the Commission of its responsibility, pursuant to the

public interest standard and *Sprint v. FCC*, to fully-examine the price squeeze in this state and its

impact on local and long-distance competition in New Jersey.

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[24]   Declaration of George S. Ford, ¶¶ 11-16, attached hereto at Tab A.

[25]   *Id.*, Table 1.

[26]   *Id.*, ¶¶ 17-18.

Respectfully submitted,

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COUNSEL TO Z-TEL COMMUNICATIONS, INC.

Dated: January 14, 2002

CERTIFICATE OF SERVICE

I, Charles "Chip" M. Hines III, hereby certify that a true and correct copy of the foregoing **"Z-Tel Comments; CC Docket No. 01-347"** was delivered this 14th day of January 2002 to the individuals on the following list:

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_____
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TAB A

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

Application by Verizon New Jersey Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), Verizon Global Networks Inc., and Verizon Select Services Inc., for Authorization to Provide In-Region, InterLATA Services in New Jersey	))) CC Docket No. 01-347)))))))

AFFIDAVIT OF
GEORGE S. FORD, Z-TEL COMMUNICATIONS, INC.

I.   Qualifications

1.   My name is George Ford. My business address is 601 South Harbour Island Boulevard, Tampa, Florida 33602. I am the Chief Economist of Z-Tel Communications, a CLEC that offers competitive local and long distance exchange services to residential consumers in more than thirty states.

2.   In 1994, I received a Ph.D. in Economics from Auburn University where my graduate work focused on the economics of industrial organization and regulation with course work emphasizing applied price theory and statistics. In that same year, I became an Industry Economist at the Federal Communications Commission in the Competition Division of the Office of the General Counsel. In 1996, I left the FCC to become a Senior Economist at MCI Worldcom where I was employed for nearly four years. In May of 2000, I began my current position as Chief Economist of Z-Tel Communications. I have maintained an active research agenda on communications issues and have published research papers in a number of academic journals *Journal of Law and Economics*, the *Journal of Regulatory Economics*, the *Review of Industrial Organization*, among others. I am a contributing author to the *International Handbook on Telecommunications Economics*. I regularly speak at conferences, both at home and abroad, on the economics of telecommunications markets and regulation.

II. Purpose

3. The purpose of this statement is to evaluate the UNE loop and switching rates in New Jersey. In an effort to incorporate the recent Court Decision in Sprint v. FCC, 2001 WL 1657297, my evaluation adapts and applies the "TELRIC Test" methodology set forth by the Federal Communications Commission ("FCC") in its Oklahoma-Kansas 271 Order. This methodology evaluates the TELRIC compliance of UNE rates by comparing the relative costs of providing service across states. My adaptation of the "TELRIC Test" evaluates TELRIC compliance of proposed UNE rates in cases where a price squeeze is a legitimate concern. According to Verizon, its New Jersey retail rates are the lowest in the country. Thus, the prospects for a price squeeze are high.

III. The TELRIC Test

The Commission's Use of the TELRIC Test

4. The pricing prong of checklist item two requires a BOC to demonstrate that it provides UNEs in accordance with section 252(d)(1) of the Act.[1] For section 271 purposes, a BOC must show that its prices for interconnection and unbundled network elements are based on forward-looking, long-run incremental costs. In determining whether a BOC's UNE rates satisfy this standard, the FCC utilizes its Hybrid Cost Proxy Model ("HCPM" or "Synthesis Model" or "USF Cost Model") to compare UNE costs and rates across states. The operating principle of the FCC's analysis is that relative UNE rates between states should be consistent with relative cost differences, and that these relative cost differences are reasonably measured by the HCPM. As the FCC indicated:

> Our USF cost model provides a reasonable basis for comparing cost differences between states. We have previously noted that while the USF cost model should not be relied upon to set rates for UNEs, <u>it accurately reflects the relative cost differences among states (emphasis added)</u>.[2]

5. When evaluating UNE rates within the context of a 271 application, the Commission employs its USF cost model to compare UNE rates in the applicant state with rates in other states for which the Commission has found rates to be TELRIC compliant. If the difference in rates is roughly equal to the differences in

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[1] 47 U.S.C. § 271(c)(2)(B)(ii).

[2] FCC KS-OK 271 Order, ¶ 84.

costs, then the FCC declares the rates to be TELRIC compliant (or consistent with what a TELRIC analysis would produce).

6. For example, the Commission applied its "TELRIC Test" in the orders approving 271 applications in Oklahoma/Kansas and Massachusetts. In Oklahoma, the FCC evaluated the UNE loop rate, whereas in Massachusetts the loop and switching UNE rates were scrutinized with the TELRIC Test. For Oklahoma, the FCC expressed concern regarding loop rates:

> In taking a weighted average of loop rates in Oklahoma and Texas, we find that Oklahoma's rates are roughly one-third higher than those in Texas (ft. omitted). ... Using a weighted average of wire-center loop costs, the USF cost model indicates that loop costs in SWBT's Oklahoma study area are roughly 23 percent higher than loop costs in its Texas study area (ft. omitted). We therefore attribute this portion of the differential, roughly two-thirds of it, to differences in costs. The remainder of the differential, however, is not *de minimus*, and we cannot ignore its presence. [3]

In this statement, the FCC expresses concern that the difference in loop rates is not cost justified, where costs are measured with the HCPM.

7. During the 271-review process, SBC reduced its loop rates in Oklahoma. With respect to the reduced loop rates in Oklahoma, the FCC concluded:

> The weighted average of the Oklahoma discounted loop rates is roughly 11 percent higher than the weighted average of the loop rates in Texas. This differential between Oklahoma promotional and Texas rates is well within the 23 percent differential suggested by the USF cost model, and so we conclude that the discounted rates meet the requirements of the Act.[4]

After the voluntary rate reduction in the Oklahoma loop rate, the 11% rate difference was below the 23% cost difference estimated by the HCPM. As a consequence, the FCC deemed the loop rate TELRIC compliant.

8. During the review of the Massachusetts 271 application, Verizon "voluntarily" reduced its switching rates during the Massachusetts 271 proceeding to a level consistent with that of New York. The FCC concluded that the New York switching rates were appropriate for Massachusetts because:

> [a] weighted average of Verizon's voluntarily-discounted Massachusetts rates ... and corresponding rates in New York shows that rates in

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[3] FCC KS-OK 271 Order, ¶ 83-5.

[4] FCC KS-OK 271 Order, ¶ 86.

> Massachusetts are roughly five percent lower than those in New York. A comparison based on the USF model of costs in Verizon's study area in Massachusetts and New York for these same elements indicates that the costs in Massachusetts are roughly the same as the costs in New York.[5]

Again, the relative cost difference as measured by the HCPM was used to evaluate the relative rate differences across states.

The TELRIC Test Methodology

9. Using the language from the FCC's 271 Orders, the TELRIC Test can be defined more formally as follows. Let the cost for an unbundled element in the subordinate or applicant state i be C_i and in some reference state be C_R. Further, let the TELRIC loop costs determined by the state commissions be P_i and P_R, respectively. While the HCPM is used to produce values for C_i and C_R, the FCC stated that the estimates from the HCPM do not equal necessarily the absolute level of TELRIC costs, i.e., $P_i \neq C_i$ and $P_R \neq C_R$. However, the agency does contend that the HCPM's output accurately reflects the relative cost differences among states. Thus, the TELRIC Test is defined as

$$\frac{P_i}{P_R} \leq \frac{C_i}{C_R},$$ (1)

a condition which simply indicates that the ratio of UNE rates must be (approximately) equal to or less than the ratio of HCPM costs. Equation (1) defines the basic TELRIC Test performed by the Commission in earlier 271 proceedings.

10. To illustrate the application of Equation (1), consider the Oklahoma and Texas loop comparison. Prior to the arbitrary reduction in Oklahoma loop rate, the FCC determined that the UNE rates in Oklahoma were "roughly one-third higher than those in Texas," implying that P_i/P_R is 1.33. The HCPM indicated, however, that loop costs are only "23 percent higher than loop costs" in Texas, implying that C_i/C_R is 1.23. Obviously, 1.33 is not less than or equal to 1.23, leading the FCC to express concern over the initial Oklahoma loop rate. Once the Oklahoma loop rate was reduced, the ratio of prices was only 1.11, which is below the cost ratio of 1.23. Thus, the reduced Oklahoma loop rate passed the TELRIC Test.

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[5] FCC Massachusetts 271 Order, ¶ 25.

11. The FCC has made clear that there is no single TELRIC-compliant UNE rate. Rather, TELRIC is a rather general set of rules capable of producing multiple estimates of cost for any single element. In other words, TELRIC is better characterized as a "zone of reasonableness," rather than a point estimate. Presumably, this "zone of reasonableness" has a lower and upper bound (say, P^{min} and P^{max}).

12. The TELRIC Test – defined in Equation (1) -- can be adjusted to produce the lower and upper bounds on the "zone of reasonableness." Using Equation (1), the lower and upper bounds are:

$$P_i^{min} \approx \min\left(\frac{P_R}{C_R}\right) \cdot C_i, \tag{2a}$$

$$P_i^{max} \approx \max\left(\frac{P_R}{C_R}\right) \cdot C_i, \tag{2b}$$

where the two equations establish a minimum and maximum level of TELRIC compliant UNE rates. The inputs required to compute these boundaries are identical to those used for the standard TELRIC Test: 1) the variable C_i is computed easily using the HCPM and 2) the ratio P_R/C_R is computed using established UNE rates and HCPM cost estimates.

The computation of P^{min} establishes the lower bound on the TELRIC "zone of reasonableness." Given the extremely low regulated retail rates in New Jersey, the potential exists for a "price-squeeze" in that state. Consequently, the FCC should evaluate how close the proposed UNE rates in New Jersey are to the lower bound of the TELRIC "zone of reasonableness" in order to minimize the risk of a "price squeeze." In the analysis that follows, my focus is only on the computation of the lower bound. The upper bound of the "zone of reasonableness" is immaterial to a price-squeeze. This limited focus also is advantageous in that the computation of P^{max} is unreliable given the exceedingly high UNE rates established by some state commissions.

Data

13. The computation of Equation (2a) requires a source for UNE rates. For the calculations to follow, Commerce Capital Market's report on the "Status &

Implications of UNE-Platform in Regional Bell Markets"[6] provides the necessary data on UNE rates. The HCPM provides the estimates of cost. HCPM estimates are computed using the wire center output files of the HCPM (available for download at the FCC website). The HCPM cost numbers in the table are based on weighted averages of the HCPM estimates, and in some cases usage data from the HCPM.[7] All the cost estimates have been adjusted by the uncollectibles factor.[8] Also, loop rates are adjusted downward to account for the HCPM's allocation of all overhead to the loop. The loop rates in Table 1 include only overhead correctly attributed to the loop.[9]

14. For end-office switching, the port charge is added to the end-office usage costs to create a per-line monthly cost for end-office switching. Monthly usage costs are computed by multiplying the usage rate by the number of local switched minutes as defined in the HCPM. The end-office switching cost from the HCPM for Verizon-New Jersey is provided in Table 1.

15. Pooling the rate and cost data sets, the ratio P_R/C_R in Equation (2a) is computed using data for 48 states (all states for which the data was available). For UNE loops, the lower bound of P_R/C_R is 0.42. [10] For end-office switching, the lower bound of P_R/C_R is 1.24.[11] As shown in Equation (2a), this figure multiplied by the HCPM estimate of cost in a state produces that state's lower bound for the TELRIC "zone of reasonableness."

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[6] Attached hereto as Tab 1.

[7] Total switched access lines are used as weights.

[8] Because the uncollectible factor applies to all HCPM estimates in the table, the factor will cancel out when the TELRIC Test is performed. Therefore, whether or not this adjustment is made has no impact on the results of the TELRIC test. Nevertheless, I felt it appropriate to adjust the absolute levels by the uncollectible factor for presentation purposes in Table 1.

[9] The adjustment to overhead is identical to the method employed in the Oklahoma/Kansas and Massachusetts 271 orders.

[10] Other descriptive statistics include a mean of 0.85, a standard deviation of 0.203, and a maximum of 1.35. The null hypothesis of the Jargue-Bera normality test cannot be rejected, suggesting that the distribution of the ratios follows a normal distribution.

[11] Other descriptive statistics include a mean of 2.71, a standard deviation of 1.37, and a maximum of 8.64. The null hypothesis of the Jargue-Bera normality test is easily rejected, and the ratios are skewed right.

Table 1. Comparison of New Jersey UNE Rates and the TELRIC Zone of Reasonableness

	Loop	End-Office Switching
HCPM Cost Estimate	$15.57	$1.89
Lower Bound of Zone of Reasonableness	$6.53	$2.29
Verizon New Jersey Rates	$9.52	$2.86
UNE Rate minus Lower Bound	$2.99	$0.57
Percentage over the Lower-Bound	46%	25%

Table 1 summarizes the HCPM Cost estimates and UNE rates for New Jersey. As revealed in Table 1, the New Jersey UNE rates are substantially in excess of the lower bound of the TELRIC "zone of reasonableness." The loop rate exceeds the lower bound by 46%, whereas switching costs are 25% above the lower bound. Given that New Jersey has the lowest retail rates in the country, the potential for a price squeeze is a genuine concern. Since UNE rates are well in excess of the lower bound of the "zone of reasonableness," those rates could be lowered significantly and still remain in the "zone of reasonableness." While lowering the rates in this manner would not necessarily remedy any price squeeze concern with the Application, it would certainly lessen its impact.

IV. Conclusion

16. In this declaration, an adaptation of the FCC's TELRIC Test is constructed so that the lower bound of the TELRIC "zone of reasonableness" can be estimated. Estimating the lower bound of the "zone of reasonableness" is important for states with low retail rates, given that high UNE costs and low retail rates create the potential for a "price squeeze."

17. According to Verizon, retail rates in New Jersey are the lowest in the country, making a price squeeze a threat. My analysis shows that the UNE rates for unbundled loops and unbundled local switching for Verizon New Jersey are substantially above the lower bound of the TELRIC "zone of reasonableness." One potential method of mitigating any price squeeze would be to lower these rates to this lower bound of the TELRIC "zone of reasonableness." However, that action would not necessarily remedy any price squeeze in New Jersey, although that action would certainly lessen its impact.

This concludes my affidavit.

George S. Ford
Senior Economist

STATE OF FLORIDA   )
)
COUNTY OF HILLSBOROUGH   )

    I, Sarah Greenhawt, a Notary Public in and for the jurisdiction aforesaid, whose commission expires on the _____4th_____ day of April 2004, do hereby certify that whose name is signed to the writing above, has acknowledged the same before me in my jurisdiction aforesaid.

    Given under my hand this __14th__ day of January, 2002.

Sarah Greenhawt

SARAH GREENHAWT
My Comm Exp. 4/10/04
No. CC 926184
[ ] Personally Known [ ] Other I.D.
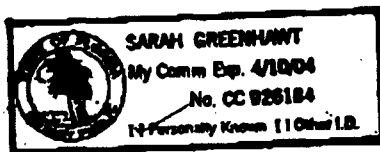
TAB 1

**Telecommunications
& Broadband Services**

Status & Implications of
UNE-Platform In Regional Bell Markets

■ The competitive landscape is changing as the 271 application process moves ahead throughout the U.S. A key factor in the process for both ILECs and CLECs is the pricing of UNE-Platforms (UNEP), which are the most popular market-entry mechanism for CLECs currently.

■ Our analysis suggests that currently UNE (unbundled network elements) prices are at a deep discount to Regional Bells' costs, as reflected on their financial statements.

■ At the same time, there is not necessarily sufficient margin for CLECs to justify entry into local markets based on a UNE-Platform strategy.

■ Rate restructuring, which is the obvious economic solution to this problem is not politically viable in most states.

■ Barring an unexpected ruling from the Supreme Court, it is likely that UNE and UNEP prices will continue to drop as low prices from one state are migrated to another in the 271 negotiations. We believe this process will be gradual and not radical. As a result, we do not see an immediate or dramatic change in the pace of CLEC market entry or in the related exposure for RBOCs.

Type of Report
INDUSTRY REPORT

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HISTORY OF UNE-PLATFORM

Before the Telecom Act of 1996, the local telephone market was a franchised monopoly. The Act eliminated that franchise. Congress recognized, however, that it would take more than the stroke of a legislative pen to introduce competition into a market that is characterized by enormous economies of scale and scope. To give competitors a chance to build that scale so that they might be able to deploy their own facilities, Congress forced the incumbent telcos (ILECs) to open their networks to their new competitors (CLECs) in two ways: resale and leasing of unbundled network elements (UNEs). Thus, a CLEC entering the market has three options: building its own facilities, using the ILEC network under resale, or leasing UNEs from the ILEC. There are two ways that a CLEC can use UNEs: it can lease them individually to combine with its own facilities—e.g. combining the ILEC's loop with the CLEC's switch and trunking—or it can buy all of the UNEs that are used by a single end-user in combinations and apply no facilities of its own. This last case is known as UNE-Platform (UNEP).

UNEP is physically similar to resale. In each case, the CLEC uses the ILEC network to provide service to the end-user and essentially limits its own functions to marketing, inputting the order into the ILEC's systems, and billing. The Act treats the two cases very differently, however, in terms of the cost to the CLEC, which is, of course, the wholesale revenue to the ILEC. Under resale, the CLEC pays the ILEC retail revenue minus a set discount (usually about 20%). Under UNEP, the CLEC pays the sum total of the cost of the elements. In other words, the resale price is set top-down, the UNEP price is set bottom-up. UNEP, thus, presents the CLEC with a fixed network cost that has to be covered, regardless of retail revenue. High revenue customers can result in a high gross margin, both in dollars and percentage. However, it is also possible to lose money at the gross margin level on a customer whose retail revenues do not cover the UNEP cost. Resale does not present the risk of a gross margin loss, because by definition the resale cost will be below retail. However, the roughly 20% gross margin offered by resale is not adequate to cover the internal costs of most CLECs. Because CLECs' own systems and marketing costs generally consume more than 20% of retail (particularly for start-up CLECs who have few subscribers over whom to spread those fixed costs), resale has not proven to be a very economic mode of entry for CLECs. UNEP can be more economic, where the customer's retail bill is high enough. Thus, CLECs have generally preferred UNEP to resale as an entry mechanism, where they have felt entry was economic at all. But they have generally limited themselves to targeting states in which UNEP prices are low and then cherry-picking customers within those states.

Strategies for the use of UNEP have varied enormously from CLEC to CLEC, complicated to some extent by the fact that the largest CLECs are also long-distance carriers (IXCs) who are somewhat ambivalent about the trade-off between entry into local markets and the opening of their own long-distance markets to the Regional Bells (RBOCs). The same sort of ambivalence, naturally, has prevailed among some RBOCs, who have to trade off loss of local market share in exchange for gain of long-distance share. In this study, we are not going to focus on the politics or the trade-off of local vs. long-distance revenues. Our focus is on the economics of UNEP itself, based on the best information we could gather about current UNEP rates. We are interested in those economics from two perspectives: those of the entering CLEC and those of the RBOC.

UNEP prices are set either via direct negotiation between CLECs and ILECs or via arbitration before the relevant state commission, if negotiation fails. The rates are set based on a methodology prescribed by the Federal Communications Commission (FCC) and applied by the state commission. The methodology the FCC chose is TELRIC (total element long-run incremental cost). The rates do not reflect the costs embedded on the ILEC's books, but the forward-looking cost that the ILEC would bear if it built its network today based on the best technology available today. UNE rates are, therefore, subject to considerable debate as they are set. For example, each state can interpret TELRIC somewhat differently, and each ILEC and CLEC can debate what the right inputs should be on a forward-looking basis. Although the underlying ILEC networks that are being leased consist physically of the same elements, roughly speaking, UNEs can vary from state to state and ILEC to ILEC both in definition and price. For example, a function that is included in one element in one state may be priced separately in another state, or included within a different element.

Furthermore, UNE prices change periodically, as a state commission reviews them on its own initiative or as a result of a court ruling, and also as the FCC reviews them as part of its review of RBOCs' applications for long-distance entry under section 271 of the Telecom Act. We will not go through the long and painful judicial history of UNE pricing here except to say that TELRIC has been in court since the FCC decreed it in 1996. Most recently, the 8th Circuit has ruled that the methodology is flawed and the Supreme Court is currently reviewing the 8th Circuit's ruling. A ruling from the Supreme Court is expected early in 2002. Depending on the Supreme Court's ruling, all of these rates may have to be changed in some way. We do not expect the Supreme Court to rule against forward-looking pricing, but it may force some variations on remand, first at the FCC and then at the states.

In the meantime, the FCC and state commissions are operating under the current set of rules and using TELRIC. Because RBOCs in many states are filing their 271s, many states are in the process of re-examining their UNE rates. To be granted in-Region long-distance entry, an RBOC needs to prove that its local market is open. Part of that openness is the availability of UNEs at cost-based prices. That is something that both the relevant state and the FCC need to ensure. Thus, both the state in which a 271 is being filed and the FCC tend to review existing UNE rates as part of the broader 271 review. The state directly runs the review and the FCC provides informal feedback to the RBOC and to the state about its sense of the reasonableness of the rate being developed. The FCC also has on occasion become formally involved, when it has either rejected a 271 or encouraged the RBOC to refile it with revised UNE rates. It has done so when it has found that the RBOC's UNE rates did not come within a range of reasonableness for TELRIC.

That sense of reasonableness tends to come from looking across states and to a much lesser extent even across Regions at rates for particular elements. For example, radically different per-minute switching rates across states are likely to raise questions, because the underlying equipment is fairly similar from state to state and company to company. Some variation is expected for different labor rates, rents in central offices that house the switches, etc., but radical differences are not expected. For loops, more variation is expected, because loop cost is sensitive to customer density and to topography as well as to input costs like labor, rent, etc. But even for loops, there seems to be a look across states for "range of reasonableness." For example, the FCC found it puzzling at one point to see higher loop rates in Massachusetts than in some states that are much more rural, and did not approve the Massachusetts 271 till some UNE rates were changed.

Because the 271 application process is in high gear throughout the United States at this point and some re-examination is likely as part of each review, we have decided to review the current status of UNE pricing, with a couple of caveats. We are focusing on UNEP, which is the most popular entry mechanism among CLECs at this point. We also note that the approach to this process at the FCC may be modified somewhat, given that three new FCC commissioners have taken office in the last few months. Finally, we note that our study is subject to an extraordinary level of fallibility. Both facts and assumptions about UNE prices and usage are under hot debate among parties, and it is difficult in some cases to get companies to agree what an actual tariff price is, much less what usage assumptions should be applied to it.

GOALS OF OUR STUDY

The purpose of our study is to see:

- Which states appear to be outside the standard range and may have their rates revised downward
- Whether there is potential for changes in UNE prices that are radical enough to stimulate extensive CLEC entry in a state where it does not currently exist
- How much financial exposure that creates for the RBOC involved

The latter two issues are, of course, closely linked. Unless CLECs do actually choose to enter markets and do actually take share, the RBOC has no financial exposure no matter how much UNE prices are reduced.

STUDY METHODOLOGY

We have sought to ascertain the cost of UNEP by using a variety of sources. Where possible, we have consulted the actual tariffs or interconnection agreements. We have also received input, with various degrees of completeness, from both the RBOCs and a number of CLECs, as well as from NRRI. That input has been both about actual UNE rates and about usage assumptions that might be appropriate. Because responses have varied widely, we are in the uncomfortable position of being sure only that our product is not likely to fully satisfy any of the parties who were kind enough to respond to us. For example, the question of the right average local minutes of use resulted in responses that ranged from 750 to 2400 MOUs (minutes of use). There is debate among the companies about whether only originating or both originating and terminating minutes should be used, and to some extent the answer depends on how tariffs in specific states are structured. Similarly, toll/local traffic ratios vary from state to state. The ratio of new UNEP customers versus those for whom an existing line is being migrated varies not only from place to place but from CLEC to CLEC, depending on marketing strategy. In the face of myriad different assumptions, our first decision was to arbitrarily impose some assumptions nationwide, to make comparison possible.

The core assumptions we are using are:

- Minutes of Use: 1500.
- Tandem (toll) to local ratio: 1/3.
- Call duration of 3 minutes, resulting in a ratio of 1/3 calls to MOUs.
- Call routing interoffice/all calls: 80%. (That is, 20% of calls never leave the end-office because both parties reside in the same end-office calling area).
- New UNEP lines vs. migrated UNEP lines: 10% vs. 90%.

TABLE 1: UNEP PRICES IN RELATION TO THE RBOC'S FINANCIAL BOOKS

	BellSouth	Qwest	SBC	Verizon
Basic UNEP	$ 20.97	$ 26.80	$ 19.88	$ 24.14
Basic UNEP + features	$ 21.67	$ 28.79	$ 20.96	$ 24.20
Full UNEP	$ 26.61	$ 29.49	$ 22.10	$ 24.31
Average revenue per line*	$ 62.65	$ 56.45	$ 57.37	$ 57.55
Average cash cost per line*	$ 31.79	$ 32.76	$ 32.59	$ 33.26
Average depreciation and amortization per line	$ 13.22	$ 11.77	$ 12.55	$ 11.50
Average total operating cost per line*	$ 45.01	$ 44.52	$ 45.14	$ 44.76
Full UNEP as % revenue	42%	52%	39%	42%
Full UNEP as % total operating cost	59%	66%	49%	54%

Sources: Company reports and Commerce Capital Markets estimates.

BLS, SBC, and VZ information as of Q3'01. Q information as of Q4'99.

SUMMARY OF FINDINGS:

- The average full UNEP price ranges from $16 in Michigan to $40 in West Virginia. The vast majority lie between $20 and $30.

- The average loop price runs from a low of $7 in Ohio to a high of $28 in Montana. Very few lie outside the $10-$20 range.

- The port price runs from a low of $1 in New Hampshire and Utah to a high of $6 in Wisconsin. Very few port charges lie outside a range of $1-$2.

- Per minute local switching runs from a low of $0.0008 in Tennessee, Indiana, and Ohio to a high of $0.0089 in West Virginia. Very few lie outside a range of $0.001 to $0.004.

- A state that is low on one element is not necessarily equally low on others. Thus, a low loop price is not necessarily a predictor of below average total UNEP price. The low loop price in Wisconsin, for example, is offset by a high port charge, resulting in a total UNEP price of $25 that is fairly standard. Similarly, the very low loop and switching charges in Florida are offset by a very high DUF charge, again resulting in a fairly standard total UNEP price of $25.

- For a result we believe that implementing TELRIC is as much art as science, and that the relevant art is negotiation. UNE prices and the structure of the pricing tend to be pretty characteristic within each of the original seven RBOCs, although those characteristics have begun to blur during the recent 271 negotiations.

WHAT THIS MEANS TO INVESTORS

- If the Supreme Court were to rule that TELRIC is confiscatory and that UNEs should be priced on embedded cost, the table above indicates that UNE prices would rise sharply. For all RBOCs, UNEs are priced below cash operating cost, and radically below total operating cost. If one added taxes and cost of capital, one would find discounts from average total <u>cost</u> that are well above 50% in almost all states.

  - We recognize that the financial cost figure we use is slightly overstated, because it includes special access (both revenue and cost), which is not applicable to an average access line. However, correcting for that would make only a very small difference to what is a very dramatic discount from cost as it is reported on the financial books.

  - We hasten to point out that we place a very low probability on the likelihood that the Supreme Court would rule against forward-looking pricing of some sort.

- Discount from average revenue ranges between 38% and 61%. Again, there is a small discrepancy because we were not able to remove special access from the mix.

- We recognize that using average revenue and cost is problematic, since most UNEP customers are residential. We do not have an accurate breakout state by state of either residential cost or revenue per customer and so can only make some directional comments. Cost for residential customers on the financial books is higher than for business, because the customers are spread out over a larger area, resulting in both longer loops and lower fill on trunks. Revenue, on the other hand, is substantially lower for the average residential customer than the average business customer. Thus, if we were able to create this table for residential customers only, we would be showing far less discount from average revenue but an even higher discount from average cost.

- The previous point highlights the dilemma that faces CLECs, ILECs, and regulators alike. Retail prices are not based on costs that are relevant to any particular customer class. Actually and perversely, they are set counter to the costs relevant to particular customer classes. High-cost residential customers receive low-priced service. Low-cost business customers receive higher-priced service. This is hardly news—everyone who deals with telecommunications is aware of the cross-subsidies that are embedded in the system. However, this table does highlight rather dramatically the dilemma regulators face. If they continue to ratchet down UNEP prices to the point that they become attractive to the CLECs, they will be forcing RBOCs to wholesale their network at rates that are significantly below the costs that the financial community looks at.

- Barring an unexpected ruling from the Supreme Court, it is likely that UNE and UNEP prices will continue to drop, as low prices from one state are migrated to another. The question is how radical the process will be. Will the range of reasonableness be set UNE by UNE or full UNEP by full UNEP? In other words, will the states and FCC decide that UNEP should be the sum of the lowest UNE prices

across the country to be considered reasonable, or will the regulators decide that the full package price should fall within the current national standard range. If the process is one of taking the lowest UNE price in each category and adding those up, full UNE packages in the $10-$15 range are conceivable. Take the $7 Ohio loop, add the $1 New Hampshire port, take the free switching minutes from Illinois, (For example, and you can reach that $10-$15 full UNEP quite easily).

■ If radical reductions in the price of UNEP, two things would happen. CLECs would find UNEP entry economic and would begin to enter the market very actively. The RBOCs, in turn, would quickly become uneconomic, as they would be forced to serve customers at prices that are at an 80%-90% discount from the cost on their financial books.

■ The key question, then, for investors is whether UNEP pricing is likely to remain at least at its current level, with a $20-plus price for the full UNEP in most states, in which case there is not likely to be very substantial additional CLEC entry and, therefore limited exposure for the RBOCs, or whether UNEP pricing will fall sharply. It is our expectation at this point that it will continue to ratchet down somewhat, but not radically.

■ The RBOC specific tables in the back are provided to help assess vulnerability state by state.

■ Several BellSouth states, with full UNEP priced in the high $20s have vulnerability, but it is not very significant unless all BellSouth states are ratcheted toward the new Florida rates.

■ For Qwest, there is some obvious potential for lowering of prices in Colorado and Arizona, as well as in several of its less populated states. What is not clear is whether competitors would make the up-front investment to enter those states at any UNEP prices, given their relatively small populations.

■ For SBC, there is some vulnerability in California, where the per-minute switching price is above norm. However, California's full UNEP price is within the range of previously approved 271s and so we do not expect extreme rate decreases here.

■ For Verizon, exposure is limited unless all major states are driven toward the Pennsylvania rates.

■ There is also the question of CLEC viability and strategy. MCI clearly will make the most of any rate cuts that provide more favorable margins in the residential market. AT&T's interest in this market is much less clear, even at lower prices. It has not entered Pennsylvania, for example, despite a full UNEP rate that is under $20 and despite the recently granted 271. It is planning to enter Michigan late this year, but given the rates there and throughout Ameritech, it is not clear why it has not done so long ago, given full UNEP rates in the mid- to high-teens. By contrast, MCI operates in Pennsylvania, Michigan and Illinois. Small CLECs will clearly compete if they can survive long enough to do so. At the moment, however, it is not obvious that most can survive.

■ ' Another relevant question—and one that is not price-related—is where the FCC is likely to go with its UNE definition. The Supreme Court ordered the FCC to only require those elements that are "necessary" and whose lack may "impair" CLECs. There is a real possibility that switching might be removed from the list of required UNEs. Without ILEC-provided switching, UNEP cannot exist in practice and the pricing issue becomes moot.

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Dow Jones Industrials (11/09/01) 9608.00 S&P 500 Stock Index (11/09/01) 1120.31

STATE	DENSITY	ACCESS LINES	% of TOTAL ACCESS LINES	LOOP RATE (per month)	PORT RATE (per month)	SWITCHING (per MOU)	ALL OTHER SWITCHING AND TRANSPORT	FEATURE COST	DUF	AMORTIZED NRC	BASIC UNEP COST *	BASIC UNEP COST + FEATURES **	FULL UNEP COST *
Alabama	Avg.	1,942	8%	$19.04	$2.07	$ 0.002000	$ 0.000970	$2.14	$2.48	$0.13	$21.60	$23.74	$28.35
	1			$15.24									
	2			$24.75									
	3			$44.85									
Florida	Avg.	6,514	27%	$15.81	$1.34	$ 0.000930	$ 0.000370	$0.00	$7.19	$0.14	$17.34	$17.34	$24.52
	1			$11.74									
	2			$16.26									
	3			$30.75									
Georgia	Avg.	4,115	17%	$16.51	$1.85	$ 0.001789	$ 0.000896	$0.00	$3.96	$0.09	$21.49	$21.49	$25.45
	1			$14.21									
	2			$16.41									
	3			$26.08									
Kentucky	Avg.	1,232	5%	$20.00	$2.61	$ 0.002562	$ 0.001101	$0.00	$2.48	$0.10	$27.00	$27.00	$29.48
	1			$13.54									
	2			$19.73									
	3			$28.27									
Louisiana	Avg.	2,351	10%	$17.31	$1.52	$ 0.002048	$ 0.000361	$0.00	$4.01	$0.11	$22.10	$22.10	$26.11
	1			$12.90									
	2			$23.33									
	3			$48.43									
Mississippi	Avg.	1,326	6%	$21.26	$1.41	$ 0.001188	$ 0.000358	$2.36	$4.07	$0.11	$24.63	$26.99	$33.42
	1			$12.03									
	2			$16.87									
	3			$25.68									
	4			$43.85									
North Carolina	1	2,473	10%	$15.88	$2.19	$ 0.001730	$ 0.000910	$2.44	$2.48	$0.06	$21.12	$23.56	$28.48
South Carolina	Avg.	1,475	6%	$22.49	$2.35	$ 0.002188	$ 0.001100	$2.42	$2.48	$0.07	$28.67	$31.10	$35.99
	1			$18.48									
	2			$27.87									
	3			$36.91									
Tennessee	Avg.	2,624	11%	$14.92	$1.89	$ 0.000804	$ 0.000984	$0.00	$2.48	$0.14	$18.51	$18.51	$20.98
	1			$13.19									
	2			$17.23									
	3			$22.53									
BELLSOUTH REGIONWIDE AVG		24,052	100%	$17.17	$1.78	$ 0.001516	$ 0.000712	$0.70	$4.24	$0.11	$20.97	$21.67	$26.61
Range: HIGH				$22.49	$2.61	$ 0.002562	$ 0.001101	$2.44	$7.19	$0.14	$28.67	$31.10	$35.99
State				SC	KY	KY	KY	NC	FL	FL, TN	SC	SC	SC
LOW				$14.92	$1.34	$ 0.000804	$ 0.000358	$0.00	$2.48	$0.06	$17.34	$17.34	$20.98
State				TN	FL	TN	MS	FL, GA, KY, LA, TN	AL, KY, NC, SC, TN	NC	FL	FL	TN

Notes:
* Basic UNEP includes loop, port, and all switching and transport
** Basic UNEP with Features as all features to basic UNEP
*** Full UNEP adds amortized NRC and DUF to Basic UNEP with Features

STATE	DENSITY ZONES	ACCESS LINES (000s)	% of TOTAL ACCESS LINES	LOOP RATE (per month)	PORT RATE (per month)	SWITCHING (per MOU)	ALL OTHER SWITCHING AND TRANSPORT	FEATURE COST	DUF	AMORTIZED NRC	BASIC UNEP COST *	BASIC UNEP COST + FEATURES **	FULL UNEP COST ***
Arizona	Avg.	3,001	17%	$21.98	$1.61	$0.002800	$0.002919	$1.46	$0.37	$0.17	$30.31	$31.77	$32.31
	1			$18.96									
	2			$34.94									
	3		.	$56.53									
Colorado	Avg.	2,950	16%	$20.65	$1.15	$0.002830	$0.003467	$6.84	$0.44	$0.18	$28.79	$35.63	$36.25
	BRA^			$17.00									
	1			$24.00									
	2			$36.00									
	3			$82.00									
Idaho	1	585	3%	$25.52	$1.34	$0.002900	$0.004791	$1.40	$0.47	$0.18	$34.70	$36.10	$36.74
Iowa	Avg.	1,165	6%	$20.15	$1.15	$0.002130	$0.005580	$0.41	$0.47	$0.18	$28.20	$28.61	$29.26
	1			$16.04									
	2			$19.14									
	3			$33.36									
Minnesota	Avg.	2,383	13%	$17.87	$1.08	$0.001810	$0.002824	$0.00	$0.54	$0.02	$24.11	$24.11	$24.67
	1			$8.81									
	2		▲	$12.33									
	3			$14.48									
	4			$21.91									
Montana	Avg.	394	2%	$28.37	$1.58	$0.004060	$0.008918	$0.93	$0.49	$0.17	$41.95	$42.88	$43.54
	Base Rate			$27.63									
	1			$28.59									
	2			$32.45									
	3			$25.03									
Nebraska	Avg.	508	3%	$15.79	$1.95	$0.003000	$0.003837	$1.02	$0.54	$0.39	$25.02	$26.03	$26.96
	1			$13.74									
	2			$27.48									
	3			$54.96									
New Mexico	Avg.	894	5%	$20.50	$1.38	$0.0011083	$0.001748	$1.04	$0.54	$0.39	$24.50	$25.54	$26.47
	1			$17.75									
	2			$20.30									
	3			$26.23									

UNBUNDLED NETWORK ELEMENT RATE COMPARISON MATRIX (CONTINUED)

STATE	DENSITY ZONES	ACCESS LINES (000s)	% of TOTAL ACCESS LINES	LOOP RATE (per month)	PORT RATE (per month)	SWITCHING (per MOU)	ALL OTHER SWITCHING AND TRANSPORT	FEATURE COST	DUF	AMORTIZED NRC	BASIC UNEP COST *	BASIC UNEP COST + FEATURES **	FULL UNEP COST ***
North Dakota	Avg.	226	1%	$19.75	$1.27	$0.002500	$0.010103	$1.04	$0.54	$0.20	$30.97	$32.01	$32.76
	1			$16.41									
	2			$27.66									
	3			$62.66									
Oregon	Avg.	1,522	8%	$15.13	$1.14	0.00133	$0.002869	$1.24	$0.54	$0.36	$20.59	$21.83	$22.73
	1			$13.95									
	2			$25.20									
	3			$56.21									
South Dakota	Avg.	272	2%	$21.09	$1.84	$0.003469	$0.003136	$1.04	$0.54	$0.38	$30.66	$31.71	$32.63
	1			$17.01									
	2			$18.54									
	3			$24.37									
Utah	Avg.	1,140	6%	$16.46	$0.92	$0.002491	$0.002636	$4.76	$0.42	$0.18	$23.54	$28.30	$28.90
	urban			$14.41	$0.89	$0.002299	$0.002642						
	suburban			$17.47	$0.90	$0.002664	$0.002609						
	rural			$24.14	$1.02	$0.002896	$0.002643						
Washington	Avg.	2,647	15%	$17.61	$1.34	$0.001200	$0.002629	$0.00	$0.54	$0.35	$22.91	$22.91	$23.81
	1			$7.36									
	2			$13.58									
	3			$15.35									
	4			$17.30									
	5			$23.27									
Wyoming	Avg.	274	2%	$25.65	$1.53	$0.003753	$0.002849	$1.04	$0.54	$0.21	$35.07	$36.11	$36.86
	BRA			$19.05									
	1			$31.83									
	2			$40.11									
	3			$58.43									
QWEST REGIONWIDE AVERAGE		17,961	100%	$19.54	$1.30	$0.002223	$0.003357	$1.992775	$0.48	$0.22	$26.80	$28.79	$29.49
Range: HIGH				$28.37	$1.95	$0.004060	$0.010103	$6.840000	$0.54	$0.39	$41.95	$42.88	$43.54
State				MT	NB	MT	ND	CO	MN,NB,NM ND,OR,SD,WA,WY	NB,NM	MT	MT	MT
LOW				$15.13	$0.92	$0.001108	$0.001748	$0.412700	$0.37	$0.02	$20.59	$21.83	$22.73
State				OR	UT	NM	NM	IA	AZ	MN	OR	OR	OR

Notes:
* Basic UNEP includes loop, port, and all switching and transport
** Basic UNEP with Features adds all features to basic UNEP
*** Full UNEP adds amortized NRC and DUF to Basic UNEP with Features

STATE	DENSITY ZONES	ACCESS LINES (000s)	% OF TOTAL ACCESS LINES	LOOP RATE (per month)	PORT RATE (per month)	SWITCHING (per MOU)	ALL OTHER SWITCHING AND TRANSPORT	FEATURE COST	DUF	NRC	BASIC UNEP COST	BASIC UNEP COST + FEATURES **	FULL UNEP COST***
LEC - Ameritech													
Illinois	wtd. avg.	7,216	12%	$9.53	$5.01	$0.000000	$0.001262	$0.00	$0.45	$1.04	$16.05	$16.05	$17.55
	metro			$2.59									
	suburban			$7.07									
	rural			$11.40									
Indiana	wtd. avg.	2,396	4%	$8.32	$5.34	$0.000879	$0.000981	$0.00	$0.39	$2.10	$16.16	$16.16	$18.65
	metro			$8.03									
	suburban			$8.15									
	rural			$8.99									
Michigan	wtd. avg.	5,629	10%	$10.16	$2.53	$0.001319	$0.000730	$0.00	$0.33	$0.07	$15.54	$15.54	$15.94
	metro			$8.47									
	suburban			$8.73									
Ohio	wtd. avg.	4,306	7%	$7.01	$4.63	$0.000842	$0.001067	$0.00	$0.44	$2.33	$14.18	$14.18	$16.95
	urban			$5.93									
	suburban			$7.97									
	rural			$9.52									
Wisconsin	wtd. avg.	2,294	4%	$10.90	$6.25	$0.001319	$0.001662	$0.00	$0.47	$2.26	$21.12	$21.12	$23.84
	suburban			$10.90									
	rural			$10.90									
LEC - Pacific Bell													
California	wtd. avg.	18,612	32%	$11.70	$2.88	$0.005283	$0.001469	$2.25	$0.00	$0.00	$24.27	$26.52	$26.52
	1			$10.03									
	2			$13.51									
	3			$23.53									
Nevada	wtd. avg.	389	1%	$20.52	$1.63	$0.00161	$0.00721	$0.00	$0.00	$0.00	$33.22	$33.22	$33.22
	urban			$11.77									
	suburban			$22.64									
	rural			$66.25									

STATE	DENSITY ZONES	ACCESS LINES (000s)	% OF TOTAL ACCESS LINES	LOOP RATE (per month)	PORT RATE (per month)	SWITCHING (per MOU)	ALL OTHER SWITCHING AND TRANSPORT	FEATURE COST	DUF	NRC	BASIC UNEP COST	BASIC UNEP COST + FEATURES **	FULL UNEP COST***
LEC - Southwestern Bell													
Arkansas	wtd. avg.	1,071	2%	$13.09	$1.61	$0.001843	$0.000435	$0.35	$1.49	$0.13	$17.99	$18.34	$19.95
	urban			$11.86		-							
	suburban			$13.64		$0.00131							
	rural			$23.34		$0.00169							
						$0.00253							
Kansas	wtd. avg.	1,423	2%	$13.30	$1.61	$0.002530	$0.000435	$0.35	$1.49	$0.13	$19.23	$19.58	$21.19
	urban			$11.86		-							
	suburban			$13.64		$0.001310							
	rural			$23.34		$0.001690							
						$0.001843							
Missouri	wtd. avg.	2,742	5%	$15.19	$1.89	$0.002192	$0.000595	$0.00	$0.00	$0.19	$21.08	$21.08	$21.28
	urban			$12.71	$1.74	$0.002391							
	suburban			$18.64	$1.97	$0.001620							
	rural			$19.74	$2.47	$0.001949							
	MO-Spgfld			$16.41	$2.25	$0.002807							
Oklahoma	wtd. avg.	1,712	3%	$15.71	$2.18	$0.002259	$0.000652	$9.59	$1.49	$0.16	$22.06	$31.65	$33.30
	urban			$12.14	$2.18	$0.002041							
	suburban			$13.65	$2.21	$0.001887							
	rural			$26.25	$2.58	$0.002850							
Texas	wtd. avg.	10,348	18%	$14.11	$2.22	$0.0015070	$0.000399	$0.35	$1.49	$0.18	$19.07	$19.42	$21.08
	Tx urban rate-4				$1.58	$0.0014244							
	urban			$12.14	$2.47	$0.0012691							
	suburban			$13.65	$3.05	$0.0011973							
	rural-1			$18.98	$4.21	$0.0021160							
SBC REGIONWIDE AVERAGE		58,138	100%	$11.60	$3.23	$0.002514	$0.001068	$1.08	$0.53	$0.54	$19.88	$20.96	$22.02
Range:	HIGH State			$20.52 NV	$6.25 WI	$0.005283 CA	$0.007210 NV	$9.59 OK	$1.49 AK,KS,OK,TX	$2.33 OH	$33.22 NV	$33.22 NV	$33.30 OK
	LOW State			$7.01 OH	$1.61 AR, KS	$0.00000 IL	$0.00040 TX	$0.00 MO,NV	$0.00 CA,NV	$0.00 CA,NV	$14.18 OH	$14.18 OH	$15.94 MI
AMERITECH REGIONWIDE AVERAGE		21,841	38%	$9.21	$4.46	$0.000741	$0.001098	$0.00	$0.41	$1.29	$16.10	$16.10	$17.80
Range:	HIGH State			$10.90 WI	$6.25 WI	$0.001319 MI & WI	$0.001662 WI	n/a	$0.47 WI	$2.33 OH	$21.12 WI	$21.12 WI	$23.84 WI
	LOW State			$7.01 OH	$2.53 MI	$0.00 IL	$0.00 MI	n/a	$0.33 MI	$0.07 MI	$14.18 OH	$14.18 OH	$15.94 MI
PACIFIC BELL REGIONWIDE AVERAGE		19,001	33%	$11.88	$2.85	$0.005208	$0.001587	$2.20	$0.00	$0.00	$24.45	$26.65	$26.66
Range:	HIGH State			$20.52 NV	$2.88 CA	$0.005283 CA	$0.007210 NV	$2.25 CA	n/a	n/a	$33.22 NV	$33.22 NV	$33.22 NV
	LOW State			$11.70 CA	$1.63 NV	$0.00 NV	$0.00 CA	$0.00 NV	n/a	n/a	$24.27 CA	$26.52 CA	$26.52 CA
SOUTHWESTERN BELL REGIONWIDE AVG		17,296	30%	$14.31	$2.08	$0.0017950	$0.0004603	$1.21	$1.25	$0.17	$19.63	$20.84	$22.26
Range:	HIGH State			$15.71 OK	$2.22 TX	$0.0025300 KS	$0.0006520 OK	$9.59 OK	$1.49 AR,KS,OK,TX	$0.19 MO	$22.06 OK	$31.65 OK	$33.30 OK
	LOW State			$13.09 AR	$1.61 AR, KS	$0.00 TX	$0.000399 TX	$0.000000 MO	$0.00 MO	$0.13 AR,KS	$17.99 AR	$18.34 AR	$19.95 AR

Notes:
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STATE	DENSITY ZONES	ACCESS LINES (000s)	% OF TOTAL ACCESS LINES	LOOP RATE (per month)	PORT RATE (per month)	SWITCHING (per MOU)	ALL OTHER SWITCHING AND TRANSPORT	FEATURE COST	DUF	AMORTIZED NRC	BASIC UNEP COST *	BASIC UNEP COST+ FEATURES **	FULL UNEP COST ***
LEC - NYNEX													
Maine	Avg.	760	2%	$17.53	$2.01	$0.003197	$0.001993	$0.346600	$0.06	$0.00	$17.30	$17.65	$17.71
	1			$12.67	$2.24								
	2			$15.59	$2.07								
	3			$23.00	$1.82								
Massachusetts	Avg.	4,589	10%	$14.98	$2.00	$0.004724	$0.001516	$0.000000	$0.00	$0.02	$25.89	$25.89	$25.90
	1			$7.54									
	2			$14.11									
	3			$16.12									
	4			$20.04									
New Hampshire	Avg.	825	2%	$21.10	$0.79	$0.003233	$0.001032	$0.224300	$0.06	$0.07	$27.98	$28.20	$28.33
	1			$12.13									
	2			$16.17									
	3			$35.03									
New York	Avg.	12,253	27%	$14.81	$2.50	$0.003806	$0.002280	$0.160000	$0.00	$0.00	$25.75	$25.91	$25.91
	1			$11.83									
	2			$12.49									
	3			$19.24									
Rhode Island	Avg.	681	2%	$15.65	$4.42	$0.011880	$0.003211	$0.322500	$0.06	$0.00	$41.74	$42.06	$42.12
	1			$11.19	$3.58								
	2			$15.44	$4.47								
	3			$19.13	$4.04								
Vermont	Avg.	378	1%	$14.41	$1.03	$0.004003	$0.000917	$0.062500	$0.06	$0.00	$22.54	$22.61	$22.67
	1			$7.72									
	2			$8.35									
	3			$21.63									

STATE	DENSITY ZONES	ACCESS LINES (000s)	% OF TOTAL ACCESS LINES	LOOP RATE (per month)	PORT RATE (per month)	SWITCHING (per MOU)	ALL OTHER SWITCHING AND TRANSPORT	FEATURE COST	DUF	AMORTIZED NRC	BASIC UNEP COST *	BASIC UNEP COST+ FEATURES **	FULL UNEP COST ***
LEC - BELL ATLANTIC													
D.C.	1	1,019	2%	$10.81	$1.55	$0.003000	$0.000405	$0.000000	$0.00	$0.00	$17.35	$17.35	$17.35
Delaware	Avg.	613	1%	$12.05	$2.23	$0.003634	$0.000122	$0.000000	$0.18	$0.06	$19.88	$19.88	$20.12
	1			$10.07									
	2			$13.13									
	3			$16.67									
Maryland	Avg.	4,101	9%	$14.50	$1.895	$0.003800	$0.000353	$0.000000	$0.13	$0.32	$22.52	$22.52	$22.97
	1			$12.11									
	2			$12.85									
	3			$25.96									
	4			$18.40									
New Jersey	Avg.	7,030	16%	$16.17	$1.90	$0.005418	$0.000249	$0.000000	$0.18	$0.00	$26.50	$26.50	$26.68
	1			$11.95									
	2			$16.02									
	3			$20.98									
Pennsylvania	Avg.	7,309	16%	$14.03	$1.90	$0.001802	$0.000144		$0.13	$0.01	$18.81	$18.81	$18.95
	1			$10.25									
	2			$11.00									
	3			$14.00									
	4			$16.75									
Virginia	Avg.	4,460	10%	$13.597	$1.30	$0.004129	$0.000114	$0.000000	$0.00	$0.00	$21.23	$21.23	$21.23
	1			$10.74									
	2			$16.45									
	3			$29.40									
West Virginia	Avg.	907	2%	$24.58	$1.60	$0.008868	$0.000670	$0.000000	$0.18	$0.00	$40.29	$40.29	$40.46
	1			$14.49									
	2			$22.04									
	3			$43.44									

STATE	DENSITY ZONES	ACCESS LINES (000s)	% OF TOTAL ACCESS LINES	LOOP RATE (per month)	PORT RATE (per month)	SWITCHING (per MOU)	ALL OTHER SWITCHING AND TRANSPORT	FEATURE COST	DUF	AMORTIZED NRC	BASIC UNEP COST *	BASIC UNEP COST+ FEATURES **	FULL UNEP COST ***
VERIZON REGIONWIDE AVERAGE		44,927	100%	$15.00	$2.02	$0.004042	$0.001016	$0.059038	$0.07	$0.03	$24.14	$24.20	$24.31
	HIGH			$24.58	$4.42	$0.011880	$0.003211	$0.346600	$0.18	$0.32	$41.74	$42.06	$42.12
	State			West VA	RI	RI	RI	ME	DE, NJ, WV	MD	RI	RI	RI
	LOW			$10.81	$0.79	$0.001802	$0.000249	$0.000000	$0.00	$0.00	$17.30	$17.35	$17.35
	State			D.C.	NH	PA	DE, MD, NJ	MA,DC,DE,MD NJ,PA,VA,WV	MA,NY,DC,VA	ME,NY,RI,VT DC,NJ,VA,WV	ME	D.C.	D.C.
NYNEX REGIONWIDE AVERAGE		19,487	43%	$15.24	$2.33	$0.004260	$0.002042	$0.136107	$0.01	$0.01	$26.05	$26.18	$26.20
	HIGH			$21.10	$4.42	$0.011880	$0.003211	$0.346600	$0.06	$0.07	$41.74	$42.06	$42.12
	State			NH	RI	RI	RI	ME	ME,NH,RI,VT	NH	RI	RI	RI
	LOW			$14.41	$0.79	$0.003197	$0.000917	$0.000000	$0.00	$0.00	$17.30	$17.65	$17.71
	State			VT	NH	ME	VT	MA	MA,NY	ME,NY,RI,VT	ME	ME	ME
BELL ATLANTIC REGIONWIDE AVG		25,439	57%	$14.82	$1.78	$0.003875	$0.000230	$0.000000	$0.12	$0.06	$22.69	$22.69	$22.86
	HIGH			$24.58	$2.23	$0.008868	$0.000670	n/a	$0.18	$0.32	$40.29	$40.29	$40.46
	State			West VA	DE	West VA	West VA	n/a	DE,NJ,WV	MD	West VA	West VA	West VA
	LOW			$10.81	$1.30	$0.001802	$0.000122	n/a	$0.00	$0.00	$17.35	$17.35	$17.35
	State			D.C.	VA	PA	DE, MD, NJ	n/a	DC,VA	DC,NJ,VA,WV	D.C.	D.C.	D.C.

Notes:
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** Basic UNEP with Features adds all features to basic UNEP
*** Full UNEP adds amortized NRC and DUF to Basic UNEP with Features

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Notes:

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